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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,378	08/27/2003	Howard E. Rhodes	M4065.0784/P784	3719
24998	7590	11/19/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			DANG, PHUC T	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			2818	

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,378	Applicant(s) RHODES ET AL.	
	Examiner PHUC T DANG	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on election filed October 12, 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) 1-54 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 64-82 is/are allowed.
- 6) ☒ Claim(s) 55, 57, 58 and 60-63 is/are rejected.
- 7) ☒ Claim(s) 56 and 59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This application claims benefit of 60/478,350 filed June 16, 2003.

Election/Restrictions

2. Applicant's election filed on October 12, 2004 has been considered.

In election, Applicants elect Group III (claims 55-82) for examining at this time.

Applicants have the right to file a divisional of application covering the subject matters of the non-elected claims of Group I (claims 1-34) and Group II (claims 35-54).

Claims 1-82 are currently pending in the application.

Oath/Declaration

3. The oath/declaration filed on August 27, 2003 is acceptable.

Specification

4. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

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and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 55, 57-58, 60-61 and 63 are rejected under 35 U.S.C. 102 (e) as being anticipated by Mann et al., hereafter "Mann" (U.S. Patent No. 6,768,149 B1).

Regarding claim 55, Mann discloses a method of processing an implanted region, comprising:

forming at least one transistor gate (304, Fig. 2) over a substrate of a first conductivity type (320, Fig. 3);

forming an implanted well region (318, Fig. 3) of the first conductivity type below at least a portion of the transistor gate (304, Fig. 3); and

providing an electrical device (310, Fig. 3) laterally displaced from the implanted region [col. 4, lines 53-67].

Regarding claim 57, Mann discloses the implanted well region is formed below about half the channel length of the transistor gate [Fig. 3].

Regarding claim 58, Mann discloses the implanted well region is formed by conducting an implant with dopants of the first conductivity type in an area of the substrate below half the channel length of the transistor gate [col. 5, lines 22-40].

Regarding claims 60-61 and 63, Mann discloses the electrical device is a CMOS imager, which is a photosensor, a photodiode, a photoconductor or a photogate [col. 1, lines 10-20].

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Allowable Subject Matter

6. Claims 64-82 would be allowed.

The following is a statement of reason for the indication of allowable subject matter:

Claims 64-82 are considered allowable since the prior art of record and the considered pertinent to the applicant's disclosure does not teach or suggest the claimed invention having a layer of a step of forming a doped layer of the first conductivity type in the substrate, the doped layer being in contact with the doped region of the second conductivity type as recited in claim 64 and a step of forming a doped well region below about half the channel of the gate stack and below the trench isolation region by implanting p-type ions in the silicon substrate, the doped region having an implant dose of about 5×10^{11} to 5×10^{13} atoms per cm^3 as recited in claim 78.

Claims 56 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the Prior Art of record does not disclose the well region is formed to a thickness of about 4,000 to about 40,000 Angstroms as recited in claim 56 and the implanted well region has an implant dose of about 5×10^{11} to 5×10^{13} atoms per cm^3 as recited in claim 59.

Conclusion

7. Applicants are advised to cancel the non-elected claims 1-54 of Group I and II in response to the next Office action if the application is considered to be allowed.

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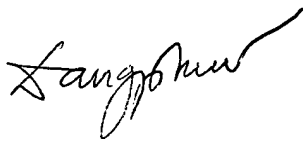
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and After Final communications.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

P.D.



Primary Examiner

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